

Fathom

The Naval Safety Center's Afloat Magazine

April-June 2003

**Cold Weather Ops Didn't
Slow USS Samuel B. Roberts**

**A Hard Head Is No
Substitute for a Hard Hat**

**Net Crew Keeps Enterprise
Sailors in "Good Hands"**



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Mishaps waste time and resources, and they take our Sailors and Marines and civilian employees away from their units and workplaces and put them in hospitals, wheelchairs, and coffins. Mishaps ruin equipment and weapons, and diminish readiness.

This magazine's goal is to help make sure personnel can devote their time and energy to the mission, and that any losses are from enemy action, not from our own errors, shortcuts or failure to manage risk.

We believe there is only one way to do any task: follow the rules and take precautions against hazards. Combat presents its own inherent hazards; we must learn to work right before engaging in combat so we do not compound its dangers.

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POSTMASTER: *Fathom* (SSN 0014-8822) is published quarterly by the Naval Safety Center

Periodicals postage paid at Norfolk, Va., and at additional mailing offices

Send address changes to:

Commander, Naval Safety Center

Attn: *Fathom*, Code 74a

375 A St.

Norfolk, VA 23511-4399

Send articles and letters to the address above, or via e-mail to the editor at fred.klinkenberger@navy.mil. Visit us on-line at <http://www.safetycenter.navy.mil>.

Volume 35, Number 2



The Sixth Fleet amphibious command ship, USS *LaSalle* (AGF 3), steams through the Mediterranean Sea in support of Operation Iraqi Freedom, to liberate the Iraqi people, eliminate Iraq's weapons of mass destruction, and end Saddam Hussein's regime. *Photo by PH1 Michael W. Pendergrass*

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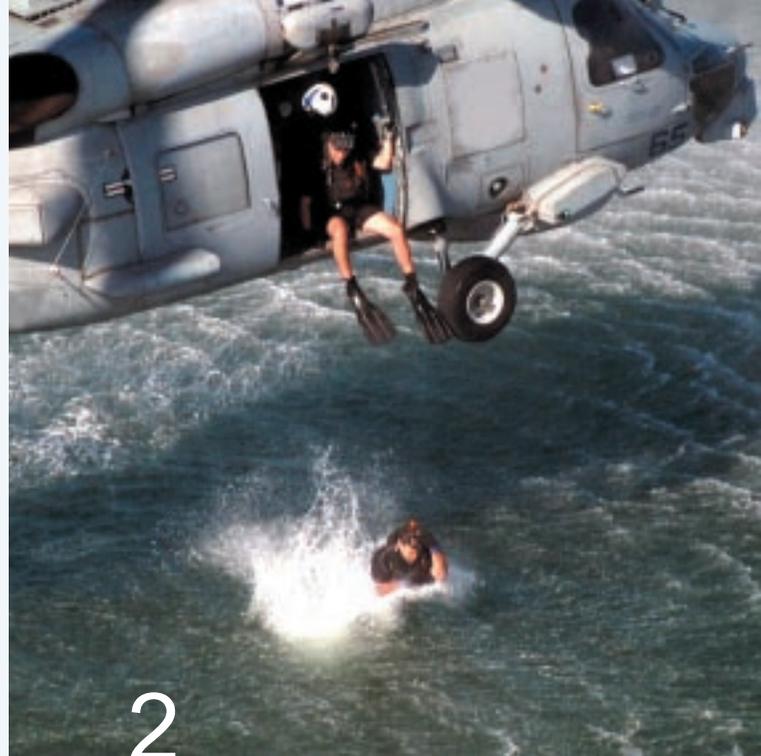
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How To Survive a Cold Night at Sea





**Once we saw
waving arms in
the water, we
heard shouts
of joy and
excitement in
the cockpit.**

By Ltjg. Rebecca Fosha,
HSL-45

My detachment was embarked in USS *Bunker Hill* (CG 52) and participating in an exercise off the southern California coast with the USS *Constellation* (CV 64) battle-group. Although it was early fall, the already normally cool sea temperature had begun to drop to 62 degrees Fahrenheit. Our crew was scheduled for an early morning launch for a routine flight. During our 0100 brief, word was passed that a *Connie* Sailor had fallen overboard. We did our preflight checks and waited to hear about search efforts. Then, our 0300 launch officially became a SAR mission.

Several airborne and surface assets already had been searching for the airman. Night vision goggles were maximizing visibility on this dark and overcast night. Even so, visibility was still poor, and even from 300 feet it was nearly impossible to see anything below. There never is a “good” night to be in the water, but this night was especially poor.

We checked in with the SAR coordinator and flew our assigned area search-pattern. We knew the Sailor had been wearing a float coat when he fell overboard, so we searched for a strobe light. We could barely see whitecaps, so we hoped reflective tape on his cranial or float coat might catch our searchlight should we unexpectedly fly over him. After searching for an hour, it looked like we wouldn’t find anything until daylight.

A couple of factors contributed to diminishing chances of finding the Sailor alive: The first was that strobe lights on float coats last for about an hour of continuous use. If this Sailor’s strobe light worked and he used it before anyone could see him, it was probably no longer functioning. Second, estimated survival time in 60-degree water is four and a half hours. Most Sailors are in good physical shape—which would help this Sailor a lot—but if his float coat had failed to inflate, he would have had difficulty treading water for that

long. Finally, he had fallen a great distance from the carrier's flight deck, increasing the possibility that an injury had impaired his physical abilities.

We continued to search as daylight broke, having renewed confidence that we might find something. A *Connie* helicopter renewed its search by using a different pattern, hoping to find something they earlier might have missed. However, with no success among several airborne and surface assets involved in the search, we reevaluated our tactics. We coordinated with *Bunker Hill* to recalculate set and drift, and we shifted our search pattern accordingly.

A little more than half an hour after sunrise, we turned to make a last search leg on our pattern—it was then when we spotted a neon green spot in the water, attributing it to a sea-dye marker. We reported the sighting and held our breath as we flew toward it to see if there was a survivor. Once we saw waving arms in the water, we heard shouts of joy and excitement in the cockpit. We struggled to get the “survivor in sight” report out to the battlegroup, which by now collectively had been searching for longer than seven hours.

A few seconds later, the admiral came up on the radio to confirm what we had seen. Three minutes later a helicopter from the carrier was picking up the Sailor and taking him to a warm, dry medical clinic for evaluation.

The Sailor saved that day was more than just lucky: He knew his survival gear and how to use it. He had saved his sea-dye marker until daylight when helicopters would be nearby, knowing we probably wouldn't see it at night or from too far away.

There are some other survival techniques that can make the difference between life and death for any Sailor who is unfortunate enough to go for an unexpected swim.

Before you don your Mk-1 float coat, make sure you are familiar with all its gear and how to operate it. An operational check will take only a few minutes and help make sure everything works. Check for tears, any degradation, an operable battery, and make sure the coat has properly tightened CO₂ cylinders. Be sure the strobe works, and make sure you have a sea-dye marker. [*Note: At the time of this mishap, sea-dye markers were not required (see sidebar following this story).*]

Should you fall overboard, the first priority is to activate your inflation cartridge. Don't panic if the automatic inflator doesn't work: use the oral inflation tube. If you know how to manually inflate your float coat you can overcome your initial panic and inflate the vest yourself. Second, think about survival: Conserve body heat by curling up your body as much as you can, and minimize your movement to conserve both energy and heat.

Try to stabilize injuries you might have sustained, and save your strength for the rescue. Finally, consider signaling options. Bear in mind that the strobe-light's battery life is about an hour, so consider using it over a longer period of time for five-minute intervals, or wait until you know an aircraft or ship is headed to rescue you and point your strobe in their direction. If you have reason to think rescuers will be wearing night-vision devices, use the strobe light because it can be seen from many miles away. During daylight, though, a sea-dye marker might be more effective than a strobe, although the strobe light will still help when used in conjunction with your marker. Wait until you hear or see aircraft overhead or in a nearby flying pattern so you don't waste your sea-dye marker before a search platform can see it.

Once you've been found and a rescue swimmer approaches, follow swimmer instructions and do not try to grab onto him. If you have questions, ask them calmly. SAR swimmers are trained to safely get you aboard the rescue vehicle. Trust them to position you to get you quickly and safely out of the water. If a helicopter is hovering above, it will be difficult to see in the rotor wash, so listen to the rescue swimmer as he tells you what to do.

No one thinks he or she will ever fall overboard—until it happens. Our helo crew was proud to have taken part in saving the young *Connie* Sailor who had been in the water for longer than seven hours. In truth, he saved himself by knowing his survival gear and using it to its full potential. If you follow these few simple techniques, you will be well prepared should you fall overboard. Above all, don't panic, use common sense and use the life-saving tools the Navy has given you. You then will live to see another day. 🌀

Mk-1 Life Preserver Updates and the M.O.B.I. Are Coming

In a message to type commanders, Naval Sea Systems Command 170530Z March 03 (NOTAL) announced changes to the Mk-1 life preserver to improve crew safety in response to Commander, Naval Air Forces, recommendations. The NavSea message states they will:

- Add the sea-dye marker to the Mk-1 allowance equipage list (AEL). However, funds to re-outfit existing Mk-1 preservers with sea-dye markers are not available from NavSea.
- Develop plans for fleet-wide introduction of the man-overboard indicator (M.O.B.I.). As part of this effort, the feasibility of adding a salt-water-activated light to the M.O.B.I. is being studied. Attaching the M.O.B.I. transmitter to Mk-1 life preservers is also being looked into.
- Revise maintenance requirement cards for the Mk-1 preserver to include the sea-dye marker. Updated MRCs will be distributed in spring SFRs. Action also will be taken to modify AELs and NSTM Chapter 077, Personnel Protection Equipment.

In an e-mail response to a fleet question, NavSea Code 05P6 (Mr. Mark Campbell) indicated, “The spring SFR will contain cards that show the new Stearns life jacket and where to put the accessories.”

In another NavSea message responding to a Mk-1 life preserver mishap report, ComNavSeaSysCom 171525Z March 03 (NOTAL) reaffirmed the above information and added that NavSea had conducted a visual inspection, a drop-test, and a submersion test on two samples of the distress-marker light (NSN 6230-01-411-8535). The drop-test consisted of dropping the distress-marker light into water three times from a height of 75 feet. The submersion test subjected the marker-light to a depth of 35 feet. Neither of the test marker-lights were damaged during the height and depth tests, and functioned normally after the tests. Therefore, the markers are suitable for shipboard use. 🌀



A fully outfitted Mk-1 life preserver shows the sea-dye marker pouch in the preserver's lower left pocket. The marker has been added to the float-coat's allowance equipage list (AEL).



This is a closeup of the sea-dye marker pouch. Updated Mk-1 life preserver MRCs, which include the sea-dye marker, are being distributed to the fleet through spring SFRs.



Painting Is for Preservation

By BMCS(SW/AW) Danny Tidwell,
Naval Safety Center

Why does the Navy paint so much? It's not to fill holes or gaps where metal or wood are missing, nor to "glue" together equipment. Paint is not meant to hold in place nuts, bolts, locking devices, or toggle pins. Sailors paint to preserve surfaces and maintain material condition of the equipment being painted.

All material aboard Navy ships requires preservation because salty seawater and ocean weather aren't exactly preservation-friendly. Paint is a sealant against the ocean's elements because it seals wood pores and steel. Paint thus arrests decay and helps prevent rust. When properly applied to prepared surfaces, paint also maintains a smart appearance and contributes to general shipboard cleanliness and, when dry, offers a smooth, washable surface. Paint is also used for temperature control because different colors reflect, absorb, or redistribute light.

To get paint's full benefits, specific pre-application steps must be followed. The surface to

be painted must be free of old paint, oil, dirt, rust, and other debris. Paint also only adheres to dry surfaces.

Paint only as required to prevent corrosion or where existing paint has deteriorated. Use the touch-up method instead of a complete paint job, if possible. Why prepare and paint a whole area when only a small area needs it? Remember, though, that the captain ultimately determines how extensive a paint job is needed.

Meanwhile, identify potential problem areas before painting. Be sure the surface area is prepared and that you'll be using the right paint for the surface about to be painted: Different paints adhere differently to various types of surfaces.

Should a paint question arise or you need other guidance, refer to NSTM 631, Preservation of Ships, to equipment technical manuals, or read your maintenance requirement card. 🌀

Where Is My **Firefighter's Hood**?



Navy photo by PH3 Sabrina Day

This firefighter is wearing the incorrect personal protective hood as part of his firefighter ensemble (FFE). The currently authorized firefighter hood to be worn with the FFE is beige, not gray.

The gray, GQ anti-flash hood is to be worn with blue coveralls and anti-flash gloves as part of shipboard gear donned during GQ. The new firefighter's hood can be identified by its large flared bib and gold color (similar to the color of the firefighter's suit). The newer hood is manufactured with a two-layer knit material, the outer layer being high-temperature resistant, polybenzimidazole (PBI) and kevlar, with the inner made of PBI and flame-resistant rayon. It is more durable, is longer

This is the new firefighter's hood.



for better neck and shoulder protection and has a larger face opening to accommodate the SCBA/OBA face-mask.

The firefighter hood is slowly replacing existing anti-flash hoods currently worn with the FFE. The new hood is certified by the National Fire Protection Association and by Underwriters' Laboratory (UL).

The hood also eliminates the need for firefighters wearing an SCBA or OBA to wear two anti-flash hoods under their FFE.

Only one firefighting hood should be worn for firefighters wearing the FFE. Existing anti-flash hoods still can be worn for GQ and firefighting until stocks are depleted.

The new FF hood is being phased into the supply system. Meanwhile, it has a Navy stock number, 8415-01-462-7670 and also carries assigned acquisition advice code "L" authorizing local purchase. You can obtain the firefighting hoods from any of the following authorized manufacturers:

Fire Brigade Mfg., Inc.
P.O. Box 3571
Shawnee, Okla. 74802-3571
1-800-352-0126
Style No. FB 227 PBI Gold (Cost \$33.00)

Majestic Fire Apparel, Inc.
P.O. Box 248
Leighton, Penn. 18235-0248
610-377-6273
Style No. PAC IX (Cost \$32.00)

Life Liners, Inc.
10 Park Place
Morristown, N.J. 07960
973-829-0642
Style No. PK9790ES (Cost \$32.00) 

By Ens. Andrew R. Harris,
USS Samuel B. Roberts

Hurricane seasons and bad weather pose risks to ships, whether the ships are underway or pierside. Put a ship in dry dock, up on keel blocks during Florida's unpredictable, hurricane-prone late summer and early fall months, and risks are compounded.

It's challenging enough when, during a dry-dock period, shipboard hazards are multiplied because hatches, ladders, and tank tops are removed. Increasing mishap potential are shipyard material, equipment, and workers. Even with preparation and safety-awareness training, a dry-docked ship's crew must be extra vigilant during hurricane season and thunderstorms.

USS *Samuel B. Roberts* (FFG 58) completed a Jacksonville, Fla., dry-dock period that lasted throughout the hurricane season. Besides preparing for expected dry-dock hazards, the ship also readied for unexpected, nasty, seasonal storms that could pop up. Being safety-oriented before going up on keel blocks, *Sammuel B. Roberts* and her crew emphasized risk awareness with daily walk-throughs, and each crew member regularly reaffirmed his role in preventing mishaps.

The ship's executive officer, LCdr. Chris Thomas, said, "From early on, we emphasized our policy that every crew member is a safety observer, every petty officer is a safety petty offi-

Docking Availability, Bad Weather *Are a* Tough Combination



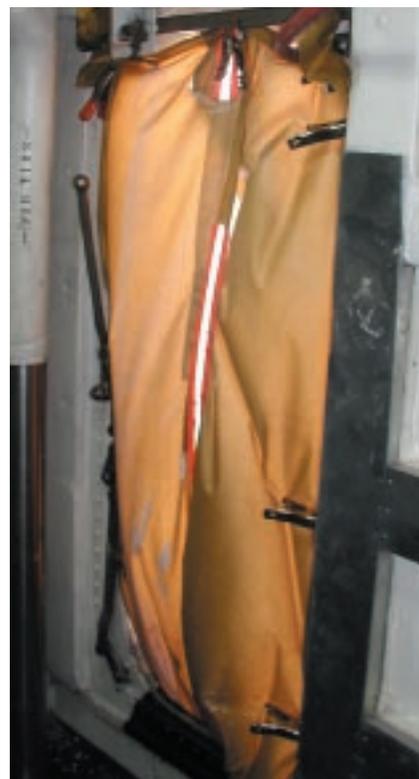
cer, and every officer is a safety officer.”

Among potential hazards requiring constant attention were hatches and doors: Many had been removed for repair or were kept open for ventilation and hose passage. This situation could have been a big problem during an afternoon downpour since each opening could have been an area where water could have entered. To fight this possibility, relatively simple but effective actions were initiated.

Smoke curtains were hung amidships where port and starboard doors had been removed. They kept rain out of the passageways and other unprotected spaces. Another potential danger existed where an escape scuttle to auxiliary machinery room 2 was removed to allow for ventilation and lowering hoses into the space. Contractors had placed a wooden cover over the opening to prevent anyone from falling through it, but rain easily could have entered the space, so a dam was placed around the opening.

While planned dams can keep water out of a space, people sometimes unknowingly can create dams that lead to unwanted water buildup. For instance, after removing the ship’s lifelines, contractors replaced them with plywood, which created a funnel and a dam around the entire ship. Ship’s force cut holes in the wood to allow for runoff and to avoid trapping water on the deck.

Storms also bring perils other than rain. Wind can blow open lockers and tool cabinets, and can rip away canopies, awnings, and brow skirts. During the ship’s dry-dock period, an 02-level storage locker was blown open and it



To keep rainwater and storms from entering openings where doors and hatches had been removed for maintenance, *Samuel B. Roberts’* Sailors used smoke curtains and other suitable material to cover the openings and keep the ship’s interior dry.

filled with water. On the dry dock’s wall, a large tool cabinet was blown over. Neither incident resulted in injury or damaged equipment, but each represented the dangers in failing to prepare for high winds. Besides, any time objects 50 feet above the ground interact with the earth’s gravity while people are below, you had better take the situation seriously because a real threat exists.

Despite its vigilance and situational awareness, the crew never forgot unpleasant surprises can happen when combining an overhaul with stormy weather. During hurricane season, you always must consider weather, prepare for the worst, and take extra measures to avoid mishaps, particularly when a ship rests on blocks in dry dock. Be prepared beforehand—don’t wait until high winds or a hurricane are imminent before you attempt to decide what to do. 🌀

Dang Me! Dang Me! Don't Use a Line To Hang Me!



**This is *not* the way
to hang a cable.**

See NSTM 300, Paragraph 4.6.7.1 and Table 4-4; and DoD Standard 2003, Chapter 3 (Bulkhead Penetrations) and Chapter 4 (Cableways) for the proper way to run and hang cables.



Make Sure Your Head Protection Is Authorized!



Naval Safety Center surveyor MMC(SS) Jeff Shull models the unauthorized helmet found in a submarine helicopter transfer bag.

By FTCM (SS/SW) Chris Clemons and MMC(SS) Jeff Shull, Naval Safety Center

During a recent submarine safety survey, we were inspecting a boat's helicopter transfer bag and found almost everything complied with the allowance equipage list (AEL). Then: Oops! We came across several commercial bicycle helmets. The chief-of-the-boat said the squadron had approved using the bicycle helmets in place of the cranial helmets listed on the AEL.

The bicycle helmets were off-the-shelf products and had been bought locally. They did not have an American National Standards Institute (ANSI) rating. We were concerned because I had not seen any messages or notices indicating any circumstances under which

commercial helmets could replace cranial helmets.

We contacted the Navy Clothing and Textiles Research Facility for clarification. They confirmed that the Naval Sea Systems Command-approved cranial helmet listed on the AEL (2-330023065) is the only authorized head protection to be used aboard submarines. NavSea is the only agency that can authorize head protection for submarine use.

When it comes to protective gear of any kind, don't take anyone's word for what is, or is not, approved for use. Always ask to see written authorization and references that the Navy has officially approved use of specific equipment. Don't rely on word-of-mouth. 

PMS: Is It a System

Photo by PH3 Angel Roman-Otero



FC3 Adrian Herevia conducts preventative maintenance and corrosion inspection on a Close-In Weapons System (CIWS) gun barrel aboard USS *Kearsarge* (LHD 3) during the ship's participation in support of Operation Iraqi Freedom.

Damage Control. Explosion-proof lights are not being maintained and often are missing tamper-seals or have the wrong bulbs and loose globes. These lights are not only in DC spaces but spread throughout the ship. Supervisors often are unaware about existing PMS requirements for these light fixtures. Review MIP 3301/008 and study the PMS requirements. The MRC even

By ETC(SW) Henry DuPlantier,
Naval Safety Center

A system can be defined as a process or organized structure to achieve a goal, whereas a syndrome is defined as a pattern of abnormal function. After completing recent safety surveys, I asked myself, "Is PMS a system where everyone is working towards the same objective of preventive maintenance, or is PMS a syndrome of functional failure?"

Survey after survey, Naval Safety Center teams have discovered lack of attention to detail and a failure to use this "system" for planning, scheduling, and accomplishing preventive maintenance. These problems are seen in all areas: damage-control, electrical, deck, combat systems, main propulsion and auxiliaries, Navy occupational safety and health, medical, hazmat procedures, weapons, and safety administration. Each area has equipment requiring PMS. Has the fleet lost sight of the fact that PMS provides a simple process for identifying equipment deficiencies before they render a piece of gear or a ship less than 100-percent mission-capable? Following are some deficiencies we found during recent safety surveys.

includes an illustration of an explosion-proof light. Look in your spaces to see if they have any lights matching the one depicted in the MRC illustration; if so, add the MIP to your LOEP.

Electrical. Electrically-safe workbenches are not in compliance with requirements for insulation, equipment ground leads, and power disconnects. Such benches require an annual PMS check, with a record maintained in the tool-issue room, along with records of electrical-safety checks on power tools. Workcenters working with energized equipment during bench-testing should review MIP 6652/006 and familiarize themselves with bench-testing procedures.

Deck. Life preservers are not being maintained. Remember, they are designed to keep you afloat should you fall overboard or have to abandon ship. Preserver actuator-assemblies contained the wrong wire, and CO₂ cartridges were not screwed in place. A word to supervisors: Life preservers are covered by PMS MIP 5832. Review your maintenance requirement cards with your workers, and, if necessary, conduct more frequent and intrusive spot checks.

Combat Systems. Many climber safety-rails reflect a lack of PMS. When asked who bears

n Or a Syndrome?

responsibility for maintaining the rails, we often receive evasive answers and finger-pointing. Space ownership seems to be the problem. The electronics material officer (EMO) usually is responsible for aloft areas since he is responsible for aloft radiation hazards. This does not by default make the EMO responsible for climber safety rails at engineering stacks or on superstructure bulkheads. Supervisors should review their spaces to determine if they bear any climber safety-rail responsibilities. Consult with the EMO to see if technicians are already performing PMS in that area. If not, then add MIPs 6231/003 and 6641/003 to the responsible workcenter. Maintenance checks under these MIPs cover any aloft rail and its associated ladder.

Main Propulsion. Fuel oil systems with valve-locking devices installed are not having the sample valve closed properly and the valve locking device replaced after each use. MIP 2000 cautions technicians to make sure this maintenance step is completed.

Auxiliaries. We found many rubber flex-hoses installed on air-conditioning chilled-water systems with permanent lagging. MIP 5000/009 requires using removable lagging for PMS accomplishment. Permanent lagging is a dead giveaway that PMS is not being done. Another frequent discrepancy is refrigerant inventory not being maintained. MIP 5140 and 5161 require refrigerant-usage logs for all systems with 50 or more pounds of refrigerant.

Weapons. Safety nets located in escape trunks leading to weapons-storage spaces, sonar dome, and other trunk areas are incorrectly installed. Openings are too wide, painted, and missing weight test tags. Although material condition of the trunk safety nets is not specifically covered by PMS, there are requirements for proper installation shown in NavSea drawing 804-5184163.

Hazmat. Portable emergency eyewash stations are not authorized for shipboard use or are not being properly maintained by PMS. Approved emergency eyewash equipment must be capable of



Photo by PH3 Casey D. Tweedell

A USS *Constellation* (CV 64) electrician repairs a generator in the ship's motor-rewind shop. One problem discovered during Naval Safety Center surveys is that of electrical work-bench PMS often being overdue or ignored.

flushing the eyes with potable water at a minimum flow rate of 0.4 gallons per minute for 15 continuous minutes. The velocity of the water must be low enough to not injure the user's eyes. PMS requires eyewash stations to have unobstructed access and contain potable water. Surveyors often found stagnant water or no water in these portable emergency eyewash stations. Review MIP 6000 series for PMS requirements.

In every surveyed area, supervisors appeared uninformed about many of the problems. Whether or not you're a petty officer and supervisor is secondary to the fact that safety is an all-hands responsibility. Overlooked or gun-decked PMS increases mishap potential because of the failure-to-pay-attention-to-detail syndrome. When mishaps occur, the "system" has failed, and shipmates get hurt. You might be next. ☹️



Illustration by DM1(AW) Eulogio Devera, USS *Nimitz*

By BM1(SW) Trevor S. Davis,
USS Frank Cable (AS 40)

Sailors often take their working, living, or liberty environments for granted and don't think about potential consequences of their actions (or inactions!). For instance, the last time you ventured down a pier to get to your ship and saw a crane operating, did you wear a hard hat? Cranes are critical support equipment found on just about any pier where Navy ships are moored: They might be civilian or Navy cranes, a shipboard crane, pedestal or traveling cranes—you name it.

Many are guilty: We see the crane and meander around it. By chance but certainly not from habit, we might look up and notice the crane has a load dangling from its hook; we then go around the load by what we determine to be an acceptable berth, and carry on. Unfortunately, the manner in which we carry on isn't always smart, and it's sometimes dangerous!

A Hard Head Is Not an Authorized Substitute for a Hard Hat

We should all know—common sense dictates it—hard hats with chin straps are required in the vicinity of all crane operations. Why do we ignore the requirement? Have we fallen victim to the it-won't-happen-to-me syndrome? When we see a crane, do we say to ourselves, “I'm only going to be there for a second,” or “I'm just passing through, so I don't need a hard hat”?

Reality check: Gravity's downward force is about 32.15 feet per second/squared. That fact means a falling pallet of sodas or a box of paintbrushes will move much faster than you can and ultimately will ring your chimes.

One common thought is, “Why bother wearing a hard hat if the load weight is so great it will kill me anyway?” Answer: The hard hat will direct your head away from a falling load's force so you have a better chance of surviving. Your chance of surviving without a hard hat is almost zero.

Sailors have many excuses for not wearing hard hats: They reek of sweat, they mess up one's hair, and they make the forehead break out in acne, to name a few. You name an excuse, and we've probably heard it. Unfortunately, excuses in the Navy are not like hard hats: We rely on excuses to “save” us in embarrassing situations; we're not so quick to use a hard hat, even though it might save us from serious injury or even death.

We need to rethink our invincibility and admit that, yes—it can happen to me, and no—you really can't move that fast. Gravity doesn't care who you are or how fast you think you can move. Gravity keeps the planets in orbit around the sun and literally can bring your world crashing down upon your tender cranium.

Remember, a hard head is not an authorized substitute for a hard hat. ☹

The author was stationed aboard USS Frank Cable, homeported in Guam, when he wrote this article.

Hard Hats DO Save Lives



BM1(SW) Michael Fournier (above) holds the hard hat he was wearing during an underway replenishment, and the rubber shot-line projectile that hit his helmet. A close-up photo of the helmet shows the damage where the projectile struck the helmet. One can only speculate about how seriously Petty Officer Fournier might have been injured had he not been wearing his hard hat.



By Ensign Eric D. Baebler,
USS George Philip (FFG 12)

Last January, USS *George Philip* (FFG 12) conducted her last underway refueling before the ship's scheduled decommissioning. As usual, the ship used operational risk management, held a safety brief, and followed safety standards.

As he had done numerous times in the past, BM1(SW) Michael Fournier donned his hard hat and strapped his chinstrap. He had no idea these simple precautions could save his life during this refueling.

All hands topside took protective cover while anticipating the first shot line, but, for some unknown reason, it was delayed. Everyone stayed behind cover as they finally heard the first shot. Oddly, the shot sounded like it came from forward of the ship. Petty Officer Fournier curiously raised his head from behind a large gray ventilation duct to assess the situation. As he did, he saw the line-throwing gun's rubber projectile coming right at him—with no time to duck. The projectile hit the side of his hard hat with such force that he was stunned. His first inclination was to sit calmly and take in his surroundings. When he removed his hard hat, he noticed it was cracked in two places; the elastic head strap inside the helmet was also in pieces.

Shipmates rushed to make sure he was OK, and after the corpsman determined BM1 Fournier wasn't injured, he got up, grabbed another hard hat, and returned to his unrep station.

This story could have ended tragically. A potential Class "A" mishap was averted because proper personal protective equipment was worn. Those who consider hard hats to be nuisances and uncomfortable or stupid should think again. Had BM1 Fournier not been wearing his hard hat, he probably would have been seriously injured or killed, since the rubber projectile hit his hard-hat just above his right temple.

In this case, a seasoned boatswain's mate practiced routine safety right to the very end.

What's the moral of this story? Even when you're nearing the home stretch, never let down your guard. 

Cold Weather, Rough Seas Were No-Sweat

By Ens. Andrew R. Harris,
USS Samuel B. Roberts (FFG 58)

Early last year, USS *Samuel B. Roberts* left the Mayport, Fla., sun and crossed the Atlantic to join NATO's Standing Naval Force, Atlantic. After rendezvousing in Lisbon, Portugal, the multi-national armada headed north into the infamous Norwegian winter.

During the four weeks the frigate operated in Norwegian coastal waters, average daily temperatures were in the 20s and 30s, and in the teens at night. Combined with almost-constant 25-knot winds, the weather decks usually felt like it was well below 0°F. Seas typically were rough, with 9-12-foot swells, diminishing to 5-7 feet closer to land. Precipitation included several inches of snow most days; of course, these were average conditions. The ship

also faced 60-knot winds, blizzard conditions, wind-chills nearing minus 50° F, and there were some 30-degree rolls.

Preparing for such conditions is a daunting task, especially for a crew from Florida. Months before deploying, the command stressed preparation; only by addressing the upcoming challenges early could the ship and crew expect to emerge whole.

The crew began preparing by examining NWP 3-59.4, *U.S. Navy Cold Weather Procedures for Surface Ships*. It addressed the necessary actions for keeping personnel safe and equipment functioning.



With the publication in hand, the command turned to the Supply Department.

“We conducted a thorough inventory of all foul- and cold-weather gear on-hand and replenished the inventory as needed,” said supply officer, Lt. Brad Vetting. The ship purchased extra Mustang jackets, coveralls, and submersion suits to fend off the cold. Through ComNavSurfLant, *Samuel B. Roberts* received a supplemental 30 sets of foul weather

gear from the Atlantic Fleet Integrated Logistics Overhaul Facility in Portsmouth, Va., saving the ship valuable OPTAR dollars.

After acquiring cold weather gear, the crew had to learn its proper use and the general health dangers of cold weather exposure. During the weeks before the deployment, HM1 Terry Thomas repeatedly ran a Navy instructional video, “Cold Weather Briefing for Surface Ships,” which highlighted the material dangers a ship faces in cold weather, including such issues as preventing hypothermia.

“We ran the movie during meals on a number of days before we left. We showed it a lot so I think we really got it through how serious this weather



was going to be, and it seemed to work since no one was hurt,” he said.

The ship’s first lieutenant, Ens. Jeff Greeson, was concerned not only with keeping the boatswain’s mates warm, but also with keeping snow and ice off the deck.

“I’m not sure how much snow we had over that month, but it was definitely several feet,” he said of the weather the ships experienced during the North Atlantic deployment. In heavy seas, Deck Department had to keep weather decks clear of snow and ice because they could have caused dangerous stability issues for the frigate. Although the first lieutenant did purchase snow shovels and many bags of salt before the ship deployed, and his crew never once allowed any significant accumulation on deck, he reflects back and admits two more shovels would have helped deck even more.

“Our guys had to strain pretty hard with those two shovels, but we made it through,” he said, adding, “The salt was a must, as well. We used a bit too much at the beginning, but we got the hang

of using it purposefully, rather than just throwing it on the deck, and we ended up with just enough.”

Ice accumulation was a bit trickier on the sensitive combat-systems gear. By being ever vigilant and with careful hands, fire controlmen and gunner’s mates were able to protect their gear. During one incident, a *Samuel B. Roberts*’ chief petty officer borrowed special antifreeze from the British ship HMS *Norfolk*; the antifreeze was needed for Roberts’ Mk-13 guided missile launching system, where internal cooling lines had frozen because of exposure to the cold weather. The ship also lost its Mk-32 surface vessel torpedo tube covers because they were improperly tied down.

These minor problems aside, Combat Systems Department, and the ship as a whole, faced few problems, despite the severe weather. By preparing and following established procedures, USS *Samuel B. Roberts* emerged from the frozen north virtually unscathed. The combat systems officer, Lt. Paul Piatt, summed it up with, “The lesson learned here is that if you follow the guidance, you’re ship will typically end up just fine.” 🇺🇸

During one incident, a *Samuel B. Roberts*’ chief petty officer borrowed special antifreeze from the British ship HMS *Norfolk*.



Let's Take Care of Our People and Equipment

By BMCS(SWIAW) Danny Tidwell, Naval Safety Center

Ship after ship, survey after survey, we continue to find life-threatening shortcomings with shipboard equipment. What is particularly frustrating is that these equipment problems result from simple neglect. Following are especially noteworthy problems:

Life jackets. The MRC outlines PMS procedures—all you have to do is read the card and follow those procedures! Common discrepancies include Mk-1 chemical-pill actuators not indicating green (green means “good,” while red means “dead”); actuator-assembly wires (on CO₂ or pill-type jackets) too thick to break; oral-inflation tubes not glued in bladders; and actuator assemblies and CO₂ bottles missing or the wrong type.

Meanwhile, on the Mk-5s, actuator-assembly wires again are too thick to break, and oral-inflation tubes are not glued in the bladders. Also with the Mk-5, modification straps on each side of the bladder often are missing, and, as with the Mk-2s, actuator assemblies and CO₂ bottles are missing or are the wrong type.

Boats. Although designed to save lives in case someone falls overboard, many boats have the wrong or missing man overboard and rescue signs, running lights are missing or are not working, and even life jackets are in disrepair or are missing.

Boat davits. Too often, davit wires are not maintained accord-

ing to PMS; they appear neglected and exposed to saltwater for long periods. These wires are critical to small-boat and RHIB operations, since they lower, hoist, and suspend the craft. Lubrication fittings on davits are gummed with paint, and, in some cases, the fittings are so badly corroded, grease couldn't pass through them. Protective guards and covers aren't in place, and applicable operating instructions aren't posted so the davit operator or an assistant can read and follow them during davit operation.

Anchors and associated gear. Gauges often are out of calibration—not by a week or month but by years!

Life rafts. They often are not stowed according to PMS. We routinely find an incorrect number of turns on the lashings to securing harnesses, missing rubber pads, and painted or corroded securing harnesses.

Distress marker lights. They often are not maintained and not marked with two-inch reflective tape, as required by NSTM 077, Personnel Protection Equipment.

Had NSTM guidelines and PMS requirements been followed, all these problems would have been avoided. Workcenter supervisors must get back to basics and read about their gear so they understand its preventive- and corrective-maintenance requirements. Ⓜ



This life vest is missing its CO₂ cartridge.



The anti-sabotage compound is missing from this life preserver.



Here's a different life preserver from the one at the top of the page, but with the same problem: no CO₂ cartridge.



The CO₂ cartridge in this preserver indicates red at the bottom, meaning it is not screwed in tightly. When screwed in properly, the cartridge's bottom shows green.

Photos by Fred J. Klinkenberger Jr.



Warning! Warning!

— Deck

By *BMCS(SWIAW) Danny Tidwell,*
Naval Safety Center

Deck equipment—it sits idle and exposed to weather. All hands remember how well it worked when last used. The big question, though, is, “Will it work the next time?” If it does, can you be sure someone won’t be injured or killed while working with the gear?

During safety surveys, we find a lot of deck equipment with reduced capabilities. We also know a primary reason for the condition of the gear is missing, corroded, or painted-over lubrication fittings, which prevent completing equipment PMS to maintain 100 percent functionality.

Commonly affected gear includes boat-boom goosenecks, roller chocks, boat-davit running gear, probe-receiver swivel joints, and accommodation ladders. Without lubrication, this equipment can become a hazard, thus increasing mishap potential.

A simple way to protect these fittings from saltwater corrosion and weather is to cover them



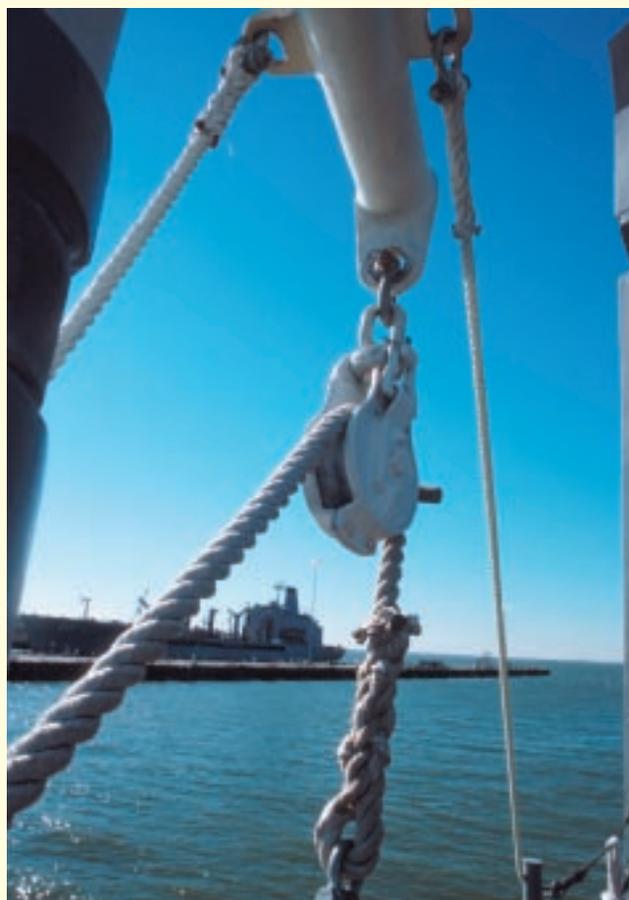
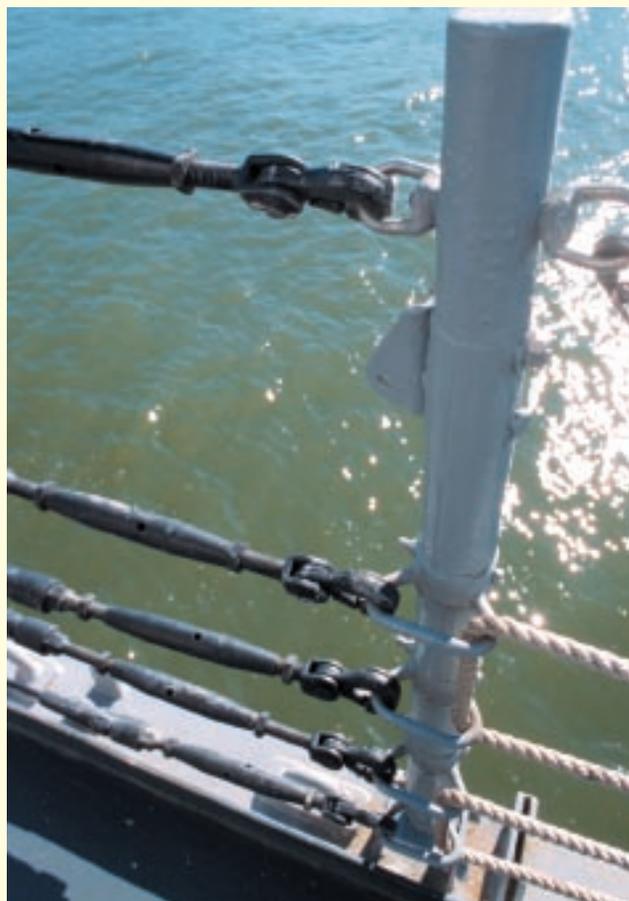
Warning! Warning! Equipment

with plastic, snug-fitting caps. These protective caps are available through the supply system. Not only do they keep out salt spray and other elements, but the caps also protect the fittings from debris.

During safety surveys, we find a lot of deck equipment with reduced capabilities.

Because the plastic caps can become FOD, however, check with your supervisor before you install them on any equipment on or near the flight deck or at any location where FOD could be an issue.

Knowing your fittings' sizes also is critical because the caps must fit snugly to keep out moisture. Contact your supply-department representative for information about these caps. ☺



Hatch and Stanchion Violations Can Hurt

By DCC(SW) James Cash,
Naval Safety Center

Several years ago I was stationed on a ship where three shipmates sustained serious injuries and five had minor injuries—all from hatches, scuttles, ladders, and associated equipment. I’ve since wondered how many fleet Sailors continue to be injured by these seemingly harmless shipboard “necessities.”

The answer came during my tour as a damage control surveyor at the Naval Safety Center, where during three years of visiting scores of ships, I’ve noted countless hatch and stanchion violations. Included are loose, missing, or unauthorized pins, hatches held open by unauthorized or unapproved material, missing stanchions, and improper locking devices. Along with material violations, I’ve also observed procedural errors, such as individual Sailors lifting heavy hatches by themselves.

During one mishap, an AO2 slipped on a ladder’s top step and tumbled downward—during his trip he grabbed for a missing safety chain. He continued tumbling down the ladder until he came to an abrupt stop. He suffered a compound fracture to his leg and several other injuries.

In another mishap, an ABF3 was finishing work on a mogas (motor gasoline) sponson. When exiting the hatch from the mogas CO₂ bottle room, the Sailor attempted to transit a three-by-three-foot hatch (opened earlier for inspection access to the space). The hatch had been tied and held with manila line, attached at a 90-degree angle and with no stanchions in place. When exiting the space, the PO3 held the hatch with his left hand, while with his right hand he untied the line from the bulkhead. Once the line cleared, he inadvertently placed his fingers over the edge of the hatch instead of grabbing the handle on top of the hatch. You guessed it: The young petty officer broke some fingers. As he closed the hatch and passed through the 90-degree position, the hatch’s weight overtook him and slammed his fingers between the hatch and the knife-edge.



The ship’s medical team was happy to administer the “Edward Scissorhands” treatment and outfit the PO3 with numerous pins and metal splints to repair his badly fractured fingers.

Finally, an FN slipped on steps while going down a ship’s ladder. As he fell, he grabbed the quick-acting, watertight scuttle for support. The scuttle’s safety lock failed, causing the scuttle to fall onto the fireman’s hand. The resulting injury was an amputated finger on one hand.

Could these mishaps have been avoided? You bet. The potential for mishaps involving ladders, stanchions or scuttles can be reduced by making sure all such devices are installed properly and complete with all required associated equipment, and they are maintained according to PMS requirements. Regularly inspect your ladders’ material condition, looking for worn rungs or steps. Make sure the nonskid strips are not worn. Walk through your spaces having ladders, scuttles, etc., and if you see something broken, or improper, secure the area until repairs are completed.

Always use two people when opening and closing heavy hatches. Never close hatches from underneath them. Most important, always inform your supervisor when you see something is not right or is unsafe, or if equipment is missing. ☺

Net Crew Keeps Enterprise Sailors in "Good Hands"

By JOSN Sara M. Gray,
USS Enterprise Public Affairs Office

Strapped into safety harnesses and swinging gently with the wind 75 feet above the pier, the USS *Enterprise* (CVN 65) "net crew" faces daunting challenges. But they don't mind: Suspended precariously above the pier and harbor, they simply go about their business as they repair and replace the ship's safety nets, critical to preparing the carrier for getting underway.

"The importance of manufacturing and installing safety nets is vital to getting ready for sea," said ABH1(AW/SW) Marcus D. Johnson, the group's supervisor.

The net crew formed last November and, during the inspection phase of the ship's repair period, found 104 of the ship's 150 safety nets needed replacement. While new nets were actually made at Ship's Intermediate Maintenance Activity (SIMA) Norfolk, Petty Officer Johnson and his crew assisted in their manufacture. Once SIMA finished making the nets, the net crew would have to remove the old nets and install the new ones.

According to Petty Officer Johnson, each net took an hour to make, once the technique was mastered. Each net had to be measured, then hand-woven and pounded together, and a border added around the edges.

Each net must pass specific safety tests, including being able to support 1,000 pounds for 10 minutes. After passing that test, each net was again measured and inspected for broken strands, rips, or tears. *Enterprise's* net crew finished making the new nets in mid-December: They then had to tackle installation.

"Manufacturing the nets was easy," said ABH3 Brian Y. Chance, from the ship's Air Department. "I loved making them—installing them is the hard part."



A USS *Enterprise* (CVN 65) Sailor is barely visible as he works on one of the ship's deck-edge nets. The *Enterprise* is undergoing overhaul in the Norfolk Naval Shipyard.

Installation was not for the faint of heart: it required great responsibility and total situational awareness. Safety harnesses and other equipment had to be examined daily.

Nonetheless, net crew members maintained their enthusiasm. "I like being a part of the net crew, because it is something new and fun to do, but it also requires a lot of responsibility," said Petty Officer Chance. The net crew worked seven days a week to install the new nets. Reliable safety nets had to be installed before returning to sea. The lives of all *Enterprise* Sailors—but especially of those working on the flight deck—rely on deck-edge nets to keep them from falling overboard.

"I can't say enough how proud I am of these Sailors. They have worked extremely hard without complaint, enduring long hours and facing so many hazards to get this job done," said their supervisor, Petty Officer Johnson. "They are the ones who deserve the credit and appreciation for an outstanding job." 🌟

Never Underestimate *the* Power *of the* Sun

By Ltjg. Joel H. Randolph,
HSL-42

My first deployment as a LAMPS Mk-III pilot included many firsts, the most memorable being crossing the equator—that imaginary line dividing the northern and southern hemispheres.

“Crossing the line,” as the event is known, gives Sailors the opportunity to participate in one of maritime’s most famous—and oldest—traditions. During the passage, Sailors who never have crossed the equator go through a rite of passage administered by “crusty shellbacks”: those who have crossed the line and have been initiated into Davy Jones’ realm.

In jest, wogs and shellbacks are “enemies” until the rite of passage is completed, but a deadlier threat than being at the mercy of shellbacks looms for all participants on deck: the equatorial sun. It strikes unsuspecting Sailors and affects some more than others. For me, the after-effects of the shellback ceremony held under that blistering sun stuck with me for days: redness, blisters, and peeling on my head where hair once grew.

The sun has been my lifelong enemy. As a boy, I once resembled a lobster more than a child after spending a day on a Florida beach fishing with my dad and grandpa. As an exchange student in Costa Rica, I set a record for burning in the tropical sun in a mere 15 minutes, earning the dubious nickname “congrejo,” Spanish for crab.

While a midshipman on a summer cruise in Hawaii, I suffered perhaps my most severe sunburn. I knew my fair skin burned quickly, so I always applied ample sunscreen when doing anything in the sun, despite jeers from fellow beachgoers who ridiculed my efforts at lathering up.

I had kept the Hawaiian sun at bay until one day when I decided to learn to surf. Clad in swimming trunks and a T-shirt (worn because of fears of chest-hair and board-wax disagreements), I figured I was protected more than adequately from the blistering sun. Wearing the T-shirt, I figured I didn’t need to coat myself with lotion.

I learned quickly, though, surfing involves more paddling than actually riding waves, and

Photo by PH1 Brien Aho

my T-shirt began chafing—rather than protecting me—while I paddled back out to sea. I took off the T-shirt, thinking, “I’ll stay out just a little longer before I apply sunscreen.” I really was avoiding the long return to shore to get the lotion.

What seemed like 30 minutes to a novice surfer without a wristwatch quickly became a couple of hours. As the day wore on, my back turned dark shades of red, then began to blister. The pain climaxed days later on what would be the longest flight of my life. Too sore and blistered to lean back in my airline seat, I suffered through an eight-hour flight that seemed more like eight weeks. I promised myself I never again would go without sunscreen when the sun is high in the sky.

Why did I—with a history of sunburns—go unprotected at the equator, where the sun is most intense? I can’t blame it on hair loss because that has been going on for years. I’ve had my days of gingerly combing my thin hair after short peri-

ods of unexpected sun exposure. I can’t blame my equatorial sunburn on lack of sunscreen or the opportunity to apply it since I had SPF 30 in my stateroom, and the ship’s chief hospital corpsman even had offered sunscreen to crew members who wanted it. I fell victim to thinking, “We’ll only be out here for a short time and, besides, it’s cloudy.”

And did I pay for it! I endured days of, “What happened to you?” and, “Ouch, that looks like it hurts!” Cold showers replaced warm ones because any heat only aggravated my burns. But this time, I learned my lesson: A ballcap or sunscreen are always on standby should I have to cross paths with my nemesis, Mr. Sun.

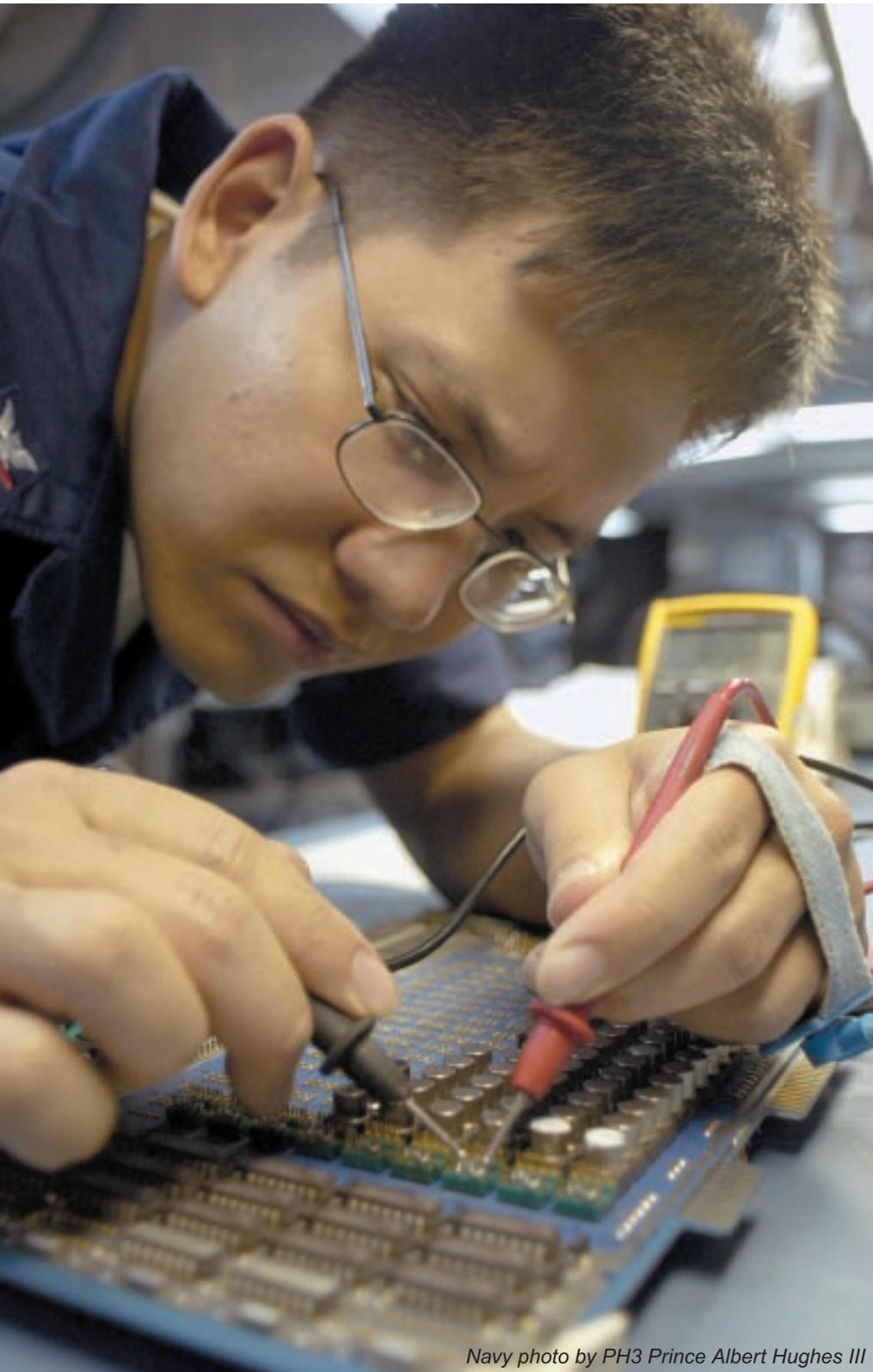
I hope I’ll evade skin cancer, but, being fair-skinned and having had several significant sunburns, I’m sure my at-risk factor has increased. One thing is for sure: I no longer care what people say about my lack of a suntan; I always use sunscreen when participating in outdoor activities. ☺

**I endured days of, “What happened to you?”
and, “Ouch, that looks like it hurts!”**



Photo by PH2 Michael D. Kennedy

New NavSea Program Reduces



Navy photo by PH3 Prince Albert Hughes III

A Naval Sea Systems Command (NavSea)-managed program for repairing shipboard circuit cards and electronic modules is reaping benefits for the Navy and keeping the fleet at peak operational readiness. The Miniature-Microminiature Module Test and Repair (2M MTR) program establishes structured work centers outfitted with repair tools, test equipment, repair and diagnostics procedures called Gold Disks, and related accessories. These work centers also carry and repair components like transistors, diodes and resistors, and can go aboard most surface ships and many shore intermediate maintenance facilities to repair circuit card assemblies and electronic modules. This portability eliminates the need to send many failed circuit cards to a depot maintenance facility.

The 2M MTR Program also supports repair of many expensive circuit cards and modules originally designated as consumables. Many failed circuit cards repaired aboard ships are not stocked in ship storerooms, and when these cards are repaired, it often means mission-critical systems are restored to 100 percent operational capability.

The program set a record for completed repairs during the first quarter of fiscal year 2003. During the quarter, 2M

Electronic CasReps and Saves Time

MTR work centers repaired 2,473 circuit cards and electronic modules, averting or correcting 237 casualty reports and saving the Navy an estimated \$8.5 million.

“The 2M MTR program is one of the best self-help programs in the Navy,” said Tom Ingram, the program manager at NavSea. “It provides ship and shore site technicians which have 2M MTR work-centers with the capabilities to improve their operational readiness with the added benefit of saving significant operating dollars.”

Many legacy and most new shipboard systems contain complex electronic circuitry. However, systems maintainers are normally trained to only troubleshoot systems down to a small group of circuit cards, or to a single failed electronic module or circuit card. “Ships only carry a limited amount of spare circuit cards aboard, so if a system goes down due to a failed circuit card and you don’t have the capability to maintain it, it can take days, weeks or longer to get a replacement card through the supply system,” said Ingram. “The 2M MTR program increases readiness by eliminating the need to wait on new or depot repaired cards,” he said, adding that most shipboard 2M repairs take fewer than four hours to complete.

The program includes three different training courses (Miniature Electronic Repair, Microminiature Electronic Repair and MTR Test Equipment), with each located at six homeport areas. Sailors in the program who repair shipboard circuit cards and modules normally do so as a collateral duty. They receive Gold Disk DVDs quarterly, which contain the latest diagnostic information to troubleshoot and repair faulty circuit card assemblies, and electronic modules.

“This program directly supports three of the CNO’s top five priorities,” said Ingram. “In addition to supporting current and future readiness, it also enhances quality of service by providing Sailors the opportunity to obtain state of the art technical skills and abilities that are critical to maintaining many mission-essential shipboard and shore systems.”

Billets to attend the 2M MTR training courses have been included as part of reenlistment incentives. The 2M MTR skills and abilities frequently net technicians personal recognition and the monthly CNO Gold Disk Award, which includes \$500 and a flag letter of commendation.

Since October 1997, Navy commands outfitted by NavSea’s 2M MTR Program completed 48,719 repairs, avoiding 4,199 casualty reports (CasReps) and saving more than \$155 million.

Ingram cited recent messages from USS *Harry S. Truman* (CVN 75) about how the program is paying dividends for deployed ships. While deployed in the Mediterranean Sea in January and February 2003, *Truman* reported 82 completed 2M MTR repairs which saved the carrier \$297,000 and averted or corrected 17 casualty reports. “The initial cost to outfit *Truman* with its 2M MTR equipment, related tools, accessories and workbenches was about \$100,000,” Ingram said.

“The 2M MTR program is one of the best self-help programs in the Navy,” said Tom Ingram, the program manager at NavSea.

Because of the success of the program, it has been copied throughout the armed services, where it played a critical role in Operation Enduring Freedom and in other operations in the Middle East and Arabian Gulf. A Marine air control group recently deployed to Kuwait with a mobile 2M MTR workstation where, according to Ingram, they are reporting success in repairing circuit cards in the desert. ☺

Questions



Editor's Note: Following are fleet questions e-mailed to the Naval Safety Center's Afloat Directorate, with each question followed by our response. Individuals who requested the information have received responses, and Fathom is publishing the questions and responses for other fleet units who might be searching for similar information. Send afloat questions to <http://www.safetycenter.navy.mil/afloat/feedback.htm>.

I am trying to find a message from a couple of years ago; the subject was unnecessarily performing electrical safety checks on shipboard equipment (or maybe it was just personal electrical devices) visibly stamped with UL (Underwriter's Laboratory) approval on their exterior. I've spoken with several sources about this, yet no one seems to have a copy of the message, though most seem to recall it. Please help—thanks!

Yes, there was a message but be careful when reading the words, “electrical safety check” and “inspection for approval for having the equipment aboard.” The outdated message to which you are referring came out in 1998, and, although it was distributed to reduce or eliminate unnecessary electrical safety checks on personal electrical and electronic equipment, the message was not meant to allow personal portable electrical and electronic equipment to be brought aboard ship and used unchecked. The bottom line is, an electrical safety check is no longer required, but all such personal equipment must be approved by the division officer and must be tagged to indicate that approval has been given. For information about personal electrical and electronic equipment, use OpNavInst. 5100.19D and NSTM 300, Electrical Plant General. More specifically, go to Paragraph B0702 of OpNavInst 5100.19D; in NSTM 300 go to Paragraphs 2.7.3.6.1 and 300-2.7.3.6.2.

OpNavInst. 5100.19D states, “The electrical safety check for personal electrical and electronic equipment is not required.” However, if you continue to letter “F”, it states, “All hands shall request permission from their division officer prior to bringing personal electrical and electronic equipment aboard.” How do we do that? NSTM 300-2.7.3.6.1



From *the* Fleet



states, “The electrical or electronics officer, or other designated personnel, must inspect electrical equipment brought aboard ship for shipboard or personal use. The decision to accept or reject portable electrical or electronic equipment for use aboard ship—and the selection of the interval between inspections—rests with the officer in charge of the inspecting shop.”

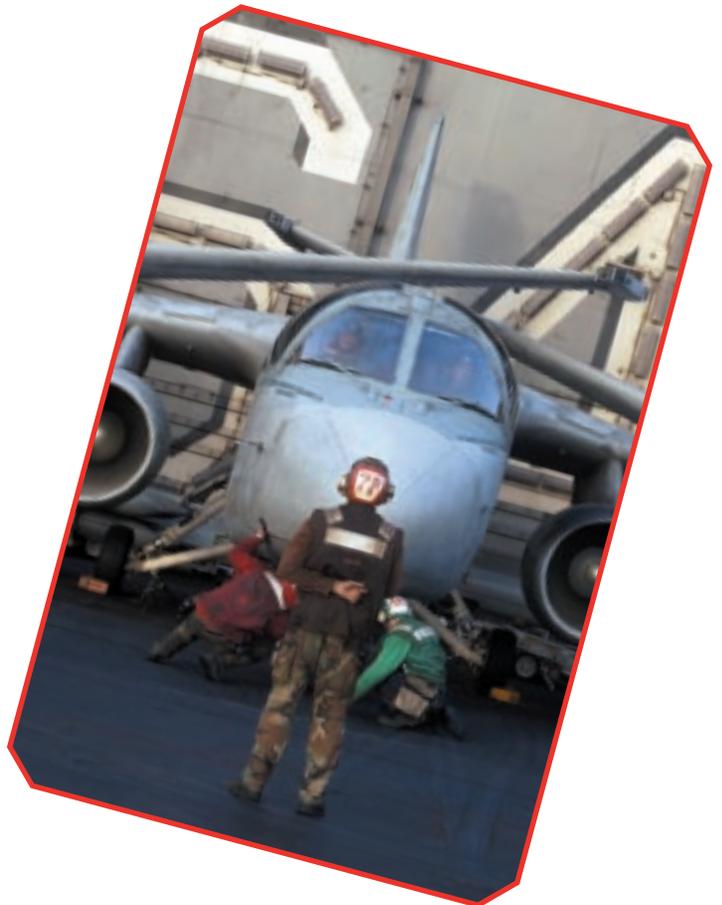
NSTM 300-2.7.3.6.2 further states, “Approved equipment shall be tagged or marked to indicate the approval. Two acceptable tags are tag NSN-0116-LF-051-0025 (which can be amended to indicate inspection intervals) and tags of color-coded tape or stickers.”

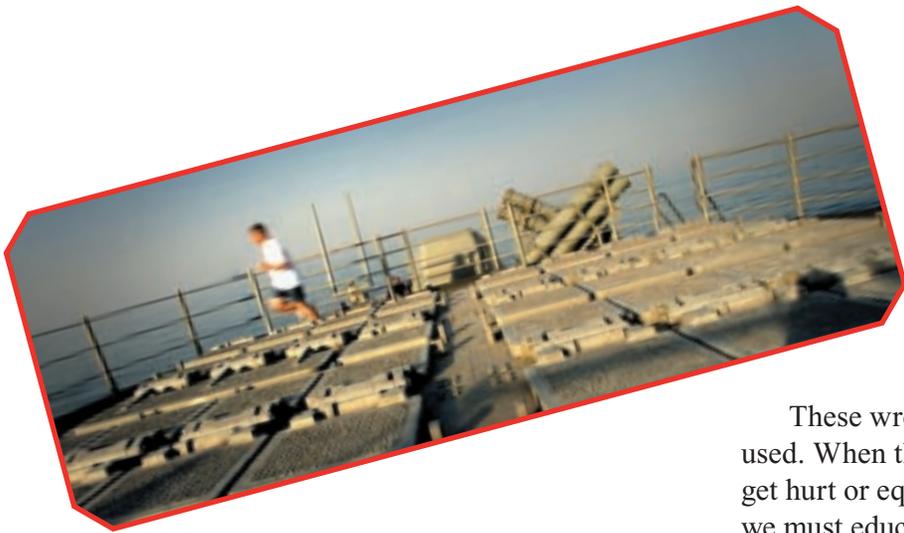
Please advise me about the requirements regarding berthing rack lights that have preinstalled receptacles: are they authorized for shipboard use or is there an advisory prohibiting their use? I was unable to find anything in NSTM 300.

Berthing lights-with-receptacles guidance is found in NSTM 330, Lighting and General Specifications for Overhaul of Surface Ships (GSO). Only aircraft carriers are prohibited from using lights with receptacles. The requirements spelled out in these two references apply to shipboard berthing.

NSTM 330-1.8.3.6 states the requirements for berthing lights with receptacles: Such lights must be connected to a single-phase, isolated receptacle circuit through an isolating transformer. Paragraph 330-1.8.3.6 also states, “Each individual berthing area is provided with an 8-watt fluorescent lighting fixture (symbols 229.1, 231.1 and 232.1), that provides sufficient illumination for reading, writing and other detail tasks. Individual control of berth lights is provided, along with a receptacle to allow for the use of small electrical appliances. Due to lower magnetic permeability required on mine-sweepers, 15-watt incandescent fixtures (symbols 5.1 or 8.1) should be installed in lieu of fluorescent fixtures. Berth lights used aboard aircraft carriers will not include a receptacle.”

The GSO (Section 304c) addresses the minimum-size requirements for isolation transformers: It is three kilovolt-amps (3kva).





I'm looking for information on pilot boarding ladders and stations. I remember a past issue on this. I'm aboard an aircraft carrier and want to make sure our boarding ladders and stations are correct. Please direct me to information and where I can find national stock numbers (NSNs) on ladders and their associated equipment.

The drawing for pilot ladders is NavSea drawing 53711-804-5000900 (Revision C), which also guides you to where you can find more info. Another good source is your InSurv checklist, which you can get from the Board of Inspection and Survey web site (<http://www.spawar.navy.mil/fleet/insurv/>). Make sure your ship has the ladder that complies with the drawings—some commands open-purchase their equipment and these ladders don't comply with drawings.

I would like to know what references or web sites and publications to go to find information about shipboard ladder parts.

The best places to look for this information are General Specifications for Overhaul of Surface Ships (GSO) 612, ships' drawings for ladders, and MIPs for ladders.

Has there been any guidance issued about using crescent wrenches aboard ship? The question was raised by a chief petty officer who had been aboard tenders where using crescent wrenches was banned because of the associated slip hazards. Used in their place were box or socket wrenches.

We know of no restrictions or bans on the use of adjustable wrenches aboard ship. In fact, MRCs often list adjustable wrenches as required tools to conduct PMS. Repair-locker AELs include adjustable wrenches, and these wrenches are available through the Afloat Shopping Guide.

These wrenches are good tools when properly used. When they are not used as intended, Sailors get hurt or equipment is damaged. To avoid this, we must educate Sailors to correctly use not only adjustable wrenches, but all tools. This includes choosing the right tools for the job, using the proper-size box, socket or combination wrenches.

Guidance on proper hand-tool use is available from the Navy training course, "Tools and Their Uses." You should be able to get this course through your educational services officer, or you can download it from <https://www.cnet.navy.mil/>. Click on the links for "professional development," then "non-resident training courses," then the course list, then click on letter "T", then click on tools and their uses. The final link is <https://www.advancement.cnet.navy.mil/navigation/catalognavigation/tcourses.htm>. 



This Is **Not** the Kind of Tip You Want to Leave

By Ens. Kevin Shmihluk,
USCGC Hamilton (WHEC 715)

It happened early one morning as the U.S. Coast Guard Cutter *Hamilton* (WHEC 715) was searching for fishing vessels breaking the law off the Hawaiian coast. Below decks, a petty officer third class was learning how to operate the ship's incinerator. He would end up getting rid of more than just trash.

Some background: *Hamilton's* shipboard incinerator operates at high temperatures, so when a plastic bag of trash is placed on the loading bucket, the loading arm must be pushed up with enough force to make sure all trash falls into the burner and no bags stick to the bucket. The loading arm then must be pushed down hard again to its original closed position so the incinerator operator isn't looking directly into the burner fire.

Hamilton's petty officer was loading trash onto the loading bucket when he suddenly felt a sharp pain in his left hand. Looking at it, he saw his middle finger had been mashed between the seating plate and the bucket arm, which was in the position shown in the photo.

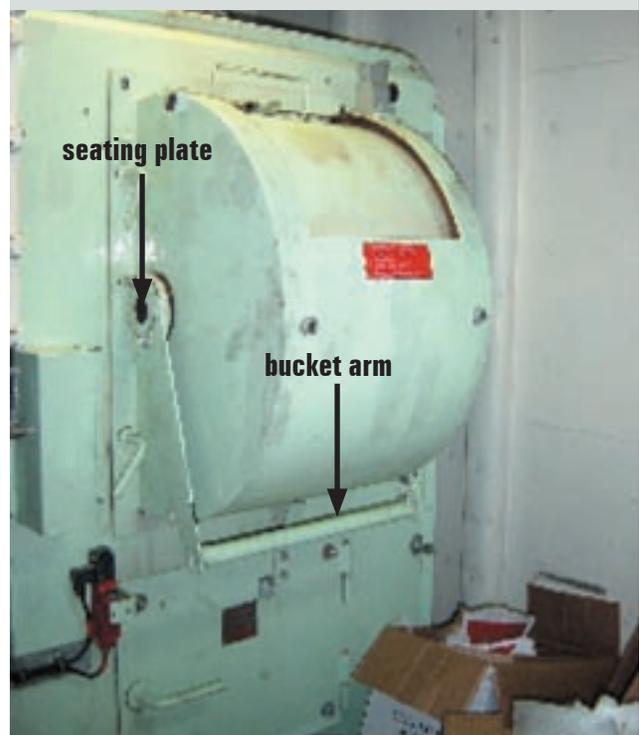
The injury did not reach his knuckle, but the fingertip was damaged. Within minutes, the PO3 was stabilized and being treated by a ship's health services technician. The injury to his fingertip was severe enough to require amputation. Meanwhile, *Hamilton* had to suspend operations and change course so the petty officer could be taken by medevac to a hospital ashore.

How and why did this injury occur? The petty officer's left hand was not in the proper position to operate the incinerator. Instead of holding the bar that goes across the bucket, the PO3 had his left hand on the loading-bucket arm, up far enough to where the arm touches the seating plate. During the investigation, the operator attributed his hand being out of position to a loss of situational awareness. He also expressed fear his hands would hit the safety shield's bar when he raised the loading arm (see the picture).

Operators have been reminded to be more vigilant—and to stay focused—while operating the incinerator. ☹



Because a Coast Guard petty officer had his hand in the wrong place, he lost the tip of a finger (above) to an incinerator like the one below. This incinerator is found aboard all 12 Coast Guard *Hamilton*-Class, high endurance cutters.



Think, "Preventive"
Because
Maintaining Your Gear Is Everything!



**Preserve and Protect
Your Equipment.**



Ships from the USS *George Washington* (CVN 73) carrier strike group are shown underway in the Mediterranean and Middle East operating area during the group's deployment. Ships conducted operations supporting NATO peacekeepers in Bosnia and operations against Iraq in the Arabian Gulf.

Photo by AN Joe Hendricks



A sea lion trainer from Space and Naval Warfare Systems Center (SPAWAR), San Diego, works on hand signal commands with Zak, a 375-pound California sea lion during a harbor patrol training swim mission. Zak is participating in SPAWAR's Shallow Water Intruder Detection System (SWIDS) program. Zak has been trained to locate swimmers near piers, ships, and other objects in the water considered suspicious and a possible threat to military forces in the area. SWIDS has been deployed to support Operation Enduring Freedom. *Photo by PH2 Bob Houlihan*